

We are conscious that these few and imperfect remarks are far from doing justice to the merits of Dr. Gray. For more than fifty years he occupied a position in the first rank of the naturalists of this country, and both in his capacity as Director of the chief zoological collection in Britain and by his personal exertions in various ways, he exercised a widespread influence. He was always ready to facilitate the study of the splendid collections under his charge, and to give advice and assistance to earnest students; and whilst it must be admitted that the shrewdness of his character, which led him to penetrate the hidden motives of men, coupled with an acquired or natural causticity of manner, often raised a prejudice against him, those who succeeded in getting within the outworks thus raised, found in Dr. Gray a warm-hearted, judicious, kind, and firm friend.

## BIBLIOGRAPHICAL NOTICE.

*Zoology.* By ALFRED NEWTON, M.A., F.R.S. Sm. 8vo. London, 1874. Society for Promoting Christian Knowledge.

*The Student's Guide to Zoology, a Manual of the Principles of Zoological Science.* By ANDREW WILSON. Sm. 8vo. London: J. & A. Churchill, 1874.

We have already, on more than one occasion, noticed the great fertility of the present day in zoological manuals. Up to within a very few years the student had the choice of two or three English books on the subject, and that was all; now his difficulties must arise solely from an *embarras de richesses*, seeing that the number and variety of the manuals offered for his selection is so great that he ought to be able to suit himself perfectly, if only he knows how to choose.

The two little handbooks of which the titles stand at the head of this article do not profess to furnish a regular system of zoology; they are devoted to the exposition of the principles of the science, or, in other words, the generalization of the results obtained by zoological investigation, to form a basis for future studies. The first of them, by Professor Alfred Newton, is one of a series of shilling 'Manuals of Elementary Science' published by the Society for Promoting Christian Knowledge; and it reflects high credit both on its author and on the Society under whose auspices it has been produced. The leading branches of zoological study are explained very simply and clearly, and from a really zoological stand-point, by Prof. Newton, whose lessons might, we think, be taken to heart with advantage by many modern naturalists, who would be offended if we made this recommendation to them personally. Starting from a very ingenious comparison between the animal world and a bag of coins, Professor Newton indicates the general principles by which

we may recognize the agreements and differences of the various forms; he then points out the general purposes of classification and the principles of nomenclature, the principles of comparative anatomy and their application to the study of extinct animals, and the general facts of geographical distribution. His third chapter is devoted to a brief sketch of the classification of animals, the fourth to their development and reproduction, and the fifth to certain general observations on the food and instincts of certain species, mimicry, &c. In this chapter also the author discusses the question of the nature and possible origin of species. We most heartily recommend this little volume as a first book of zoology.

Mr. Wilson's work, which carries the teaching much further, and is really a student's manual, is also an excellent work of its kind. Mr. Wilson covers pretty nearly the same ground as Prof. Newton, although of course he enters into much more detail; and we have to compliment both authors on the same characteristic of their work—namely, the total freedom from prejudice with which they have discussed those unsettled questions which at present divide naturalists.

## PROCEEDINGS OF LEARNED SOCIETIES.

### ROYAL SOCIETY.

February 4, 1875.—Joseph Dalton Hooker, C.B., President, in the Chair.

“Remarks on Professor WYVILLE THOMSON'S Preliminary Notes on the Nature of the Sea-bottom procured by the Soundings of H.M.S. ‘Challenger.’” By WILLIAM B. CARPENTER, M.D., LL.D., F.R.S.

The extreme interest of two of the questions started and partly discussed in Professor Wyville Thomson's communication will be deemed, I trust, a sufficient reason for my offering such contributions as my own experience furnishes towards their solution.

The first of these questions is, whether the *Globigerina*, by the accumulation of whose shells the *Globigerina*-ooze is being formed on the deep-sea bottom, live and multiply on that bottom, or pass their whole lives in the superjacent water (especially in its upper stratum), only subsiding to the bottom when dead.

Having previously held the former opinion, Prof. Wyville Thomson states that he has now been led to adopt the latter, by the results of Mr. Murray's explorations of the surface and sub-surface waters with the tow-net—which results concur with the previous observations of Müller, Hæckel, Major Owen, and others, in showing that *Globigerina*, in common with many other Foraminifera, have a pelagic habitat; while the close relation which they further indicate between the surface-fauna of any particular locality and the materials of the organic deposit at the bottom, appears to Prof. Wyville Thomson to warrant the conclusion that the latter is altogether derived from the former.